Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Richard W. Sprott
Director

State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4000 Voice
(801) 536-4099 Fax
(801) 536-4414 T.D.D.
Web: www.deq.state.ut.us

FYI
SCANNED

DAQE-049-02

January 11, 2002

S. Gale Chapman, President
Intermountain Power Service Corporation
850 West Brush Wellman Road
Delta, Utah 84624

Dear Mr. Chapman:

Re: Approval Order: Modification to Approval Order for Increased Capacity by Modifying Units 1 & 2 and Debottlenecking, Millard County, CDS-A1, NSPS, Title V
Project Code: N0327-007

The attached document is the Approval Order (AO) for the above-referenced project.

Future correspondence on this Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Ms. Milka M. Radulovic. She may be reached at (801) 536-4232.

Sincerely,

Richard W. Sprott, Executive Secretary
Utah Air Quality Board

RWS:MR:jc

cc: Central Utah Public Health Department
Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

APPROVAL ORDER: MODIFICATION TO APPROVAL ORDER FOR INCREASED CAPACITY BY MODIFYING UNITS 1 & 2 AND DEBOTTLENECKING

Prepared By: Milka M. Radulovic, Engineer
Email: mradulov@deq.state.ut.us
(801)536-4232

APPROVAL ORDER NUMBER

DAQE-049-02

Date: January 11, 2002

Intermountain Power Service Corporation
Source Contact
Rand Crafts
(435)864-6494

Richard W. Sprott
Executive Secretary
Utah Air Quality Board

Abstract

Intermountain Power Service Corporation (IPSC) operates the Intermountain Generating Station (IGS) coal fired steam-electric plant, consisting of two 875 MW units, located near Delta in Millard County. IPSC is requesting a modification to their current approval order (AO) DAQE-749-01 to uprate (increase) each unit's generating capacity from 875 to 950 MW. The following are the modifications needed at the plant for the proposed uprate which will affect emissions:

1. Increase heat input through the main boilers
2. Add patented scrubber wall rings to provide more efficient SO_2 removal
3. Add more rows of tubes in the boiler super heating section

There will be other changes which will not directly affect emissions, such as:

1. Replacement of two existing high pressure turbines with two current technology and high efficiency turbines
2. Replace one existing relief valve with a safety valve on each boiler, add one new helper cooling tower (for each unit) without increasing current total circulating flow rates and cycles of concentration, boiler feed pump performance upgrade, generator and isophase cooling enhancement, and other similar changes
3. Substituting emission rate limit of 0.024 grains per dry standard cubic feet for the Group I dust collectors with an alternate limit: monthly monitoring of a differential pressure across the dust collectors.
4. In addition to the requested changes, existing emissions from the existing cooling towers were added to the plant potential to emit.

Millard County is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. New Source Performance Standards (NSPS), Subpart Da and Subpart Y apply to this source. Boiler 1 & 2 are also Group 1, Phase II units under the Acid Rain Program. IPSC is a major source of NO_x, SO_2, CO, and PM_{10}. Title V of the 1990 Clean Air Act applies to this source. The Title V permit will be administratively amended after this AO has been issued. The potential to emit, in tons per year, will change as follows: CO 98.5, VOC (HAPs and non-HAPs) 1.34, non-VOC HAPs 7.00, and other regulated pollutants 2.00.

This modification did not trigger Prevention of Significant Deterioration (PSD) regulation review since the emission increases (based on base line actual emissions and projected future emissions) were below significant levels. However, IPSC will monitor and maintain post change emissions information and submit them to the Utah Division of Air Quality on an annual basis for a period of 5 years to demonstrate that this modification did not result in a significant emissions increase. If the submitted information indicates that emissions have increased above significant levels as a consequence of the proposed change, at that time IPSC will be required to obtain a PSD permit.

The project has been evaluated and found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). A public comment period was held in accordance with UAC R307-401-4 and comments were received. The comments were evaluated and no comment was found to be adverse to the proposed AO. This air quality Approval Order (AO) authorizes the project with the following conditions, and failure to comply with any of the conditions may constitute a violation of this order.

General Conditions:

1. This Approval Order (AO) applies to the following company:

Intermountain Power Service Corporation
850 West Brush Wellman Road
Delta, Utah 84624
Phone Number: (435) 864-4414
Fax Number: (435) 864-4970

The equipment listed below in this AO shall be operated at the following location:

PLANT LOCATION:

850 West Brush Wellman Road, Delta, Millard County, Utah

Universal Transverse Mercator (UTM) Coordinate System: datum NAD27
4,374.4 kilometers Northing, 364.2 kilometers Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307), and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be approved in accordance with R307-401-1.

5. All records referenced in this AO or in applicable NSPS, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the five-year period prior to the date of the request. All records shall be kept for the following minimum periods:

A. Emission inventories — Five years from the due date of each emission statement or until the next inventory is due, whichever is longer.

B. All other records — Five years

6. Intermountain Power Service Corporation (IPSC) shall conduct its operations of the Intermountain Generating Station (IGS) coal fired electric steam plant in accordance with the terms and conditions of this AO, which was written pursuant to IPSC's Notice of Intent submitted to the Division of Air Quality (DAQ) on April 5, 2001, May 31, 2001, August 26, 2001, September 5, 2001, September 19, 2001, October 26, 2001.

7. This AO shall replace the AO (DAQE-749-01) dated September 11, 2001.

8. The approved units shall consist of the following equipment or equivalent*:

A. Unit #1 Coal Fired Boiler (Subject to NSPS, Subpart Da)
Rating - 9,225 x 10^6 Btu/hr (MMBtu/hr)
B. Unit #2 Coal Fired Boiler (Subject to NSPS, Subpart Da)
Rating - 9,225 MMBtu/hr
C. Coal railcar unloading dust collector 1A
D. Coal railcar unloading dust collector 1B
E. Coal railcar unloading dust collector 1C
F. Coal railcar unloading dust collector 1D
G. Coal truck unloading dust collector 2
H. Coal reserve reclaim dust collector 3
I. Coal transfer building #1 dust collector 4
J. Coal transfer building #2 dust collector 5
K. Coal transfer building #4 dust collector 6
L. Coal crusher building dust collector 11
M. U1 Generation building coal dust collector 13A
N. U1 Generation building coal dust collector 13B
O. U2 Generation building coal dust collector 14A
P. U2 Generation building coal dust collector 14B
Q. Coal pile active and reserve
R. Coal Stackout
S. Fuel oil tank 1A
Capacity - 675,000 gallons
T. Fuel oil tank 1B
Capacity - 675,000 gallons
U. Limestone unloading dust collector 1A
V. Limestone unloading dust collector 1B
W. Limestone transfer dust collector 1
X. Limestone reclaim dust collector 2
Y. Limestone silo bin vent filter
Z. Limestone crusher dust collector 3
AA. Limestone preparation dust collector 4
BB. Limestone storage pile
CC. Lime silo dust collector 1
DD. Lime hopper dust collector 2
EE. Soda ash silo dust collector 3
FF. Soda ash hopper dust collector 4
GG. Fly ash silo bin vent filter 1A
HH. Fly ash silo bin vent filter 1B
II. Combustion byproducts stackout & stockpile
JJ. Combustion byproducts landfill
KK. Unit 1 cooling tower 1A
LL. Unit 1 cooling tower 1B
MM. Unit 2 cooling tower 1A

NN. Unit 2 cooling tower 1B
OO. Coal sample preparation building dust collector
PP. Sandblast facility dust collector
QQ. U1 Generation building vacuum cleaning dust collector
RR. U2 Generation building vacuum cleaning dust collector
SS. U1 Fabric filter vacuum cleaning dust collector
TT. U2 Fabric filter vacuum cleaning dust collector
UU. GSB vacuum cleaning dust collector
VV. Guzzler truck dust collector
WW. Emergency diesel generators
1A, rated at - 4,000 Hp
1B, rated at - 4,000 Hp
1C, rated at - 4,000 Hp
XX. Solvent washers
YY. Diesel driven fire pump rated at 290 Hp 1B
ZZ. Diesel driven fire pump rated at 290 Hp 1C
AAA. Auxiliary boiler 1A (not subject to NSPS)
Rating - 166 MMBtu/hr
BBB. Auxiliary boiler 1B (not subject to NSPS)
Rating - 166 MMBtu/hr
CCC. Coal Conveyors
DDD. Paint booth/shops
EEE. Engine driven equipment including compressors, generators, hydraulic pumps and diesel fire pumps
FFF. Bulb recycling crusher
GGG. Laboratory fume hoods
HHH. Gasoline tank
Capacity - 500 gallons
III. Diesel tank
Capacity - 10,000 gallons
JJJ. Diesel day tanks
Capacity - not exceeding 560 gallons per tank
KKK. Mobile oil storage tanks
Capacity - not exceeding 12,000 gallons per tank
LLL. Turbine lube oil units
Capacity - not exceeding 40,000 gallons per unit
MMM. Underground storage diesel tank
Capacity - 20,000 gallons
NNN. Underground storage gasoline tank
Capacity - 6,000 gallons
OOO. Used oil tank
Capacity - 10,000 gallons
PPP. Class III Industrial Waste Landfill
QQQ. Paved haul road
RRR. Haul road and access road
SSS. Coal truck unloading grating
TTT. Two Helper cooling towers

* Equivalency shall be determined by the Executive Secretary.

Limitations and Tests Procedures

9. Emissions to the atmosphere at all times from the indicated emission points shall not exceed the following rates and concentrations:

A. **Each Main Boiler Stack**

Before the Modification (While Rated at 8,500 x 10^6 Btu/hr)

Pollutant	lb/ 10^6 Btu heat input	
PM_{10}	0.020*	lb/ 10^6 Btu heat input
SO_2	0.15**	lb/ 10^6 Btu heat input based on 30-day rolling-average 10.0 % of the potential combustion concentration
NO_x	0.50**	lb/ 10^6 Btu heat input based on 30-day rolling-average

After the Modification (While Rated at 9,225 x 10^6 Btu/hr)

Pollutant	lb/ 10^6 Btu heat input	
PM_{10}	0.0184 *	lb/ 10^6 Btu heat input
SO_2	0.138 **	lb/ 10^6 Btu heat input based on 30-day rolling-average 10.0 % of the potential combustion concentration
NO_x	0.461**	lb/ 10^6 Btu heat input based on 30-day rolling-average

B. Testing Status (To be applied above)
* Test once a year. The Executive Secretary may require testing at any time.
**Compliance for NO_x and SO_2 emissions shall be demonstrated through use of a continuous emissions monitoring system as outlined in Condition 24.

Dust Collectors

Pollutant/Source	differential pressure range across the dust collector (inches of water gage)
PM_{10}	
Rail car unloading (4 units)	0.5 to 12*
Transfer building one	0.5 to 12*
Unit one 13A	0.5 to 12*

Transfer building two	0.5 to 12*
Transfer building four	0.5 to 12*
Crusher building one	0.5 to 12*
Unit one 13B	0.5 to 12*
Unit two 14A	0.5 to 12*
Unit two 14B	0.5 to 12*
Limestone preparation building	0.5 to 12*

* If differential pressure is less than 2 inches or greater than 10 inches, work orders will be written to investigate. Dust collector may run in the 0.5 to 2 or 10 to 12 range if reason is known. Intermittent recording of the reading is required on a monthly basis. The instrument shall be calibrated against a primary standard annually. Preventive maintenance shall be done quarterly on each baghouse.

Each Auxiliary Boiler (Rated at 166 x 10^6 Btu/hr)

Pollutant	lb/ 10^6 Btu heat input	lbs/hr*
PM_{10}	0.10	20
SO_2	0.69	100
NO_x	0.35	58

* Testing shall be done in accordance with the requirements from the most current Title V permit.

C. Notification

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, and stack to be tested. A pretest conference shall be held, if directed by the Executive Secretary.

D. Sample Location

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. Access that meets the standards of the Occupational Safety and Health Administration (OSHA) or the Mine Safety and Health Administration (MSHA) shall be provided.

E. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2

F. PM_{10}

For stacks in which no liquid drops are present, the following methods for informational purposes shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. The back half condensibles shall also be tested using the method specified by the Executive Secretary. All particulate captured shall be considered PM_{10}.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5b, 5d, or 5e as appropriate. The back half condensibles shall also be tested using the method specified by the Executive Secretary. The portion of the front half of the catch considered PM_{10} shall be based on information in Appendix B of the fifth edition of the EPA document, AP-42, or other data acceptable to the Executive Secretary.

The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.

G. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

H. Existing Source Operation

For an existing source/emission point, the production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

10. Visible emissions from the following emission points shall not exceed the following values:

A. All abrasive blasting - 40% opacity
B. All other points - 20% opacity

Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9.

For sources that are subject to NSPS, opacity shall be determined by conducting observations in accordance with 40 CFR 60.11(b) and 40 CFR 60, Appendix A, Method 9.

11. The following consumption limit shall not be exceeded:

50,000 barrels of fuel oil consumed per calendar year in the auxiliary boilers.

To determine compliance with this annual limit, the owner/operator shall calculate a total by the January 20th of each year using data from the previous 12 months (ending with December 31). Records of consumption shall be kept for all periods when the auxiliary boilers are in operation. Consumption shall be determined by fuel oil totalizer records. The records of consumption shall be kept on a monthly basis.

12. Annual emissions from the entire plant shall not exceed the following amounts:

CO ..... 1989.60* tons per rolling12-month period

* Emission factors for CO shall be derived from the most recent EPA's Compilation of Air Pollutant Emission Factors (AP-42), industry specific published emission factors (such as Electric Power Research Institute, Edison Electric Institute), fuel analysis, and IPSC own testing as appropriate.

13. Emergency generators shall be used for electricity producing operation only during the periods when regular electric power supply is interrupted, except for routine engine maintenance and testing. Records documenting generator usage shall be kept in a log and shall show the date the generator was used, the duration in hours of generator usage, and the reason for each usage.

14. The diesel driven fire pumps shall be operated on an emergency basis only, except for routine engine and fire system maintenance and testing. Records documenting diesel driven fire pump usage shall be kept in a log and shall show the date the diesel driven fire pump was used, the duration in hours of use, and the reason for each usage.

Roads and Fugitive Dust

15. IPSC shall abide by the latest fugitive dust control plan submitted to the Executive Secretary for control of all dust sources associated with the Intermountain Power Generation site.

Any haul road speeds established in the plan shall be posted.

16. The facility shall abide by all applicable requirements of R307-205 for Fugitive Emission and Fugitive Dust sources.

Fuels

17. The owner/operator shall combust only bituminous and subbituminous coals as primary fuels and shall only use diesel oil or natural gas during the startups, shutdowns, maintenance, performance tests, upsets and for flame stabilization in the 8,500 x 10^6 and 9,225 x 10^6 Btu/hr boilers. Only No. 2 oil shall be used in 166 x 10^6 Btu/hr boilers. The owner/operator may fuel-blend self-generated used oil with coal at the active coal pile reclaim structure providing that self-generated used oil has not been mixed with hazardous waste.

18. The sulfur content of any fuel oil combusted shall not exceed:

A. 0.85 lb per x 10^6 Btu heat input for fuel oil used in the main boilers.
B. 0.58 percent by weight for fuel oil combusted in the auxiliary boilers.

The sulfur content shall be determined by ASTM Method D-4294-89 or approved equivalent. Certification of fuel oil shall either be by IPSC's own testing or test reports from the fuel oil marketer.

Federal Limitations and Requirements

19. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subpart A, 40 CFR 60.1 to 60.18 and Subpart Da, 40 CFR 60.40a to 60.49a (Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978) and Subpart Y, 40 CFR 60.250 to 60.254 (Standards of Performance for Coal Preparation Plants) apply to this installation.

20. In addition to the requirements of this AO, all applicable provisions of 40 CFR Part 72, 73, 75, 76, 77, and 78 - Federal regulations for the Acid Rain Program under Clean Air Act Title IV apply to this installation.

Records & Miscellaneous

21. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded, and the records shall be maintained for a period of two years.

22. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.

23. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

Monitoring - Continuous Emissions Monitoring

24. The owner/operator shall install, calibrate, maintain, and continuously operate a continuous emissions monitoring system (CEMs) on the main boilers stacks and SO_2 removal scrubbers inlets. The owner/operator shall record the output of the system, for measuring the opacity, SO_2, NO_x, CO_2 emissions. The monitoring system shall comply with all applicable sections of R307-170, UAC; and 40 CFR 60, Appendix B.

    All continuous emissions monitoring devices as required in federal regulations and state rules shall be installed and operational prior to placing the affected source in operation.

    Except for system breakdown, repairs, calibration checks, and zero and span adjustments required under paragraph (d) 40 CFR 60.13, the owner/operator of an affected source shall continuously operate all required continuous monitoring devices and shall meet minimum frequency of operation requirements as outlined in 40 CFR 60.13 and Section UAC R307-170.

25. In order to demonstrate that the modification did not result in significant emissions increases (as defined in R307-101-2), the rolling 12-month period (that is compiled quarterly) main boilers 1&2 fuel consumption data (MMBtu/hr) and emissions from their stack flues shall be monitored for at least 5 years from the date the units begin fully using the modifications described herein as regular operation. If IPSC fails to comply with the reporting requirements of the WEPCO rule or if the submitted information indicates that emissions have increased above the significant emission increases as a consequence of the change, IPSC will be required to obtain a PSD permit for these modifications at that time. Records of NO_x and SO_2 shall be obtained through the use of a CEM. Records of PM_{10} shall be based on annual stack tests outlined in the Condition 9. Records for the rest of pollutants shall be based on the EPA's Compilation of Air Pollutant Emission Factors (AP-42), industry specific published emission factors (such as Electric Power Research Institute, Edison Electric Institute or IPSC own testing).

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site: http://www.eq.state.ut.us/eqair/aq_home.htm

The annual emission estimations below include point source, fugitive emissions, fugitive dust and do not include road dust, tail pipe emissions, grandfathered emissions etc. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, nonattainment area, maintenance area, and Title V source requirements of the R307. They are not to be used for determining compliance.

The Potential To Emit (PTE) emissions for the IPSC power generation plant are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	3,286.70
B.	SO_2	11,332.30
C.	NO_x	37,868.20
D.	CO	1,989.6
E.	VOC	63.91
F.	HAPs	82.67
	Lead	0.39168
	Beryllium	0.00892
	Mercury	0.3135
	Fluorides (HF)	16.80
	Sulfuric Acid	8.80
	Other non-VOC HAPs	93.20

Approved By:

Richard W. Sprott, Executive Secretary
Utah Air Quality Board